

BONDAR', A.N.

Indices of business accounting should contribute to the increase of labor productivity. Put' i put.khoz. 8 no.12:22-23 '64.

(MTRA 18:1)

1. Nachal'nik Darnitskov distantsii puti Yugo-Zapadnoy dorogi.

BONDAR', A.N.

Expanding the use of reinforced concrete. Put' i put. khoz. 9 no.12:
16 '65. (MIRA 19:1)

1. Nachal'nik Darnitskoy distantzii puti Yugo-Zapadnoy dorogi.

YESHCHENKO, A.A., gornyy inzh.; BONIVAR', A.S., student; BONDAR',
V.Ya., student

Increasing the output of the Ingulets strip mine. Sber. nauch.
trud. KGRI no.15:53-59 '63. (MIRA 17:8)

BONDAR', A.N.; KIRDA, M.S.; BEZRODNYI, V.I.

Tie fastening with wooden screws. Put' 1 put. khoz. 9 no.11:15
'65. (MIRA 18:11)

1. Nachal'nik Darnitskoy distantzii Yugo-Zapadnoy dorogi
(for Bondar'). 2. Starshiy inzh. Darnitskoy distantzii
Yugo-Zapadnoy dorogi (for Kirda). 3. Nachal'nik mekhaniziro-
vannogo uchastka Darnitskoy distantzii Yugo-Zapadnoy dorogi
(for Bezrodnyy).

BONDAR', A.P.; LOTOUS, V.K.; TRESHCHENKO, A.A.

Experience in using combined transportation in strip mines. Gor.
zhur. no.6:74-75. Ja. '65. (MIRA 18:7)

1. Krivorozhskiy Tsentral'nyy gornoobogatitel'nyy kombinat.

BONDAR', A.V., inzh.; ZDORIKOV, Yu.A., inzh.; GROMOV, G.I., inzh.

Using electric cutouts as operational apparatus. Elec. sta.

(MIRA 14:10)

(Electric cutouts)

BONDAR, B.

Research on the peripheral-blood reaction produced by induced hyperpyrexia; the role of suprarenal glands in the process of the action of hyperpyrexia on the leukogram.

P. 49 (Academia Republicii Populare Romane. Institutul de Fiziologie Normala si Patologica. Studii Si Certari De Fiziologie. Vol. 1, no. 1/2, Jan./June 1956. Bucuresti, Rumania)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958.

BONDAR, B., Dr.

Result of ACTH and cortisone therapy of a case of acquired hemolytic anemia. Med.int.,Bucur. 8 no.5:745-748 Sept 56.

1. Lucrare facuta in Clinica medicala I.M.F. a Spitalului Filantropia in Institutul d fiziologie normala si patologica Prof. dr. D. Danielopolu.

(ANEMIA, HEMOLYTIC, therapy

ACTH & cortisone, case report)

(ACTH, ther. use

anemia, hemolytic, acquired, with cortisone)

(CORTISONE, ther. use

anemia, hemolytic acquired, with ACTH)

BRUCKNER, I.; Prof.; BONDAR, B.

The influence of hyperpyrexia upon leucocytes; the role of the adrenal glands. Rumanian M. Rev. 2 no.1:5-14 Jan-Mar 58.

(FEVER, experimental

eff. of short wave hyperthermia on leukocytes in rabbits & rats, relation to adrenal gland funct., review)

(LEUKOCYTES

eff. of short wave hyperthermia in rabbits & rats, relation to adrenal gland funct., review)

(ADRENAL GLANDS, physiol.

relation to leukocyte response to short wave hyperthermia in rabbits & rats, review)

BONDAR', B.,arkhitektor.

Using garrets of livestock buildings for storing feeds. Sel'. stroi.
13 no. 9:6-8 S '58. (MIRA 11:10)

(Dairy barns)
(Feeding and feeding stuffs--Storage)

BONDAR, B., arkhitektor; VELIKA, Z., arkhitektor; MARCHENKO, Ye., inzh.

Using continuous-shift method in the loose housing of cows.
Sil'.bud. 10 no.8:14-17 Ag '60. (MIRA 13:8)
(Dairy barns)

BONDAR', Boris Grigor'yevich [Bondar, B.H.]; SHKURATOV, O.I., kand.
ekonom.nauk, glavnyy red.

[Role of the state monopoly of foreign trade in the creation of the economic and technical foundation of socialism in the U.S.S.R.] Rol' derzhavnoi monopolii zovnishn'oi torhivli u stvorenni material'no-vyrobnychoi bazy sotsializmu v SRSR. Kyiv, 1959. 37 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukrain's'koi RSR. Ser.2, no.5) (MIRA 12:9)
(Russia--Commercial policy)

9.9/30

S/169/60/000/007/014/016
A005/A001

Translation from: Referativnyy zhurnal, Geofizika, 1960, No. 7, P. 204, # 8469

AUTHORS: Kashcheyev, B.L., Bondar', B.G.

TITLE: Investigation of the Ionosphere During the Solar Eclipse on June 30, 1954

PERIODICAL: Tr. Khar'kovsk. politekhn. in-ta, 1958, Vol. 20, pp. 77-79

TEXT: On June 30, 1954, a vertical sounding of the ionosphere was carried out in Khar'kov (phase of eclipse-98%) for the investigation of the variation of the active altitudes at fixed frequencies. Essential variations of the active altitudes were detected during the eclipse, but the sporadic E_s layer prevented the continuous observation of reflections from the F layer. ✓B

Author's abstract.

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

CHEPURA, V.F.; KASHCHEYEV, B.L.; BONDAR', B.G.

Study of the directional features of the scattering of microwave
signals by meteor trails. Elektrosviaz' 16 no.11;3-10 N '62.

(MIRA 15:11)

(Meteors) (Microwaves)

KASHCHEYEV, B.L.; CHEPURA, V.F.; BONDAR', B.G.

Study of the dispersion of ultrashort radio wave signals by
meteor trails. Elektrosviaz' 17 no.6:2-9 Je '63. (MIRA 16:7)

(Radio waves)
(Ionospheric radio wave propagation)

ACC NR: AP6021497

SOURCE CODE: UR/0413/66/000/011/0148/0149

INVENTOR: Bondar', B. P.

ORG: None

TITLE: A unit for thermal protection of horizontally located tube sections in hypersonic shock tubes. Class 47, No. 182556

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 11, 1966, 148-149

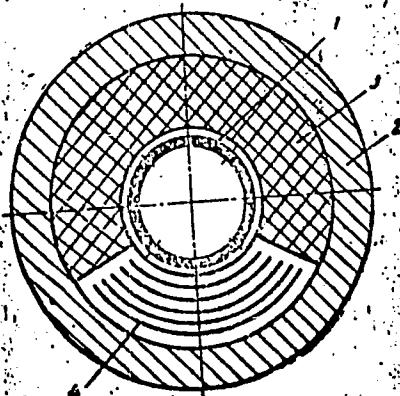
TOPIC TAGS: shock tube, thermal insulation

ABSTRACT: This Authors Certificate introduces: 1. A device for the thermal protection of tube sections in hypersonic shock tubes. The unit consists of an internal tube for flow of the hot gas, and an external tube. These tubes are concentric. The temperature field of the gas flow is kept uniform, while stresses in the material and deformation of the external tube are minimized by filling the upper section of the annulus between the internal and external tubes with a heat-insulating material and placing metal shields at the bottom. 2. A modification of this device for releasing the pressure in the internal tube by uniform perforation of its walls.

Card 1/2

UDC: 662.998

ACC NR: AP6021497



1--inner tube; 2--outer tube; 3--heat-insulating layer; 4--metal shields

SUB CODE: 20/ SUBM DATE: 07Apr65

Card 2/2

CHEKAYDA, S.G., kand. tekhn. nauk; TRACHUK, S.V., inzh.; BONDAR', B.P.,
inzh.; KRUKOVSKIY, L.N., inzh.

Photoelectric level regulators. Khim. mashinostr. no.1:136-139
'65. (MIRA 18:9)

BONDAR, Constantin

Studies on the granulometry of the alluvial deposits in suspension
at the mouth of the Sulina. Studii hidrol 3:97-126 '62.

BONDAR, Constantin; EMANOIL, Gheorghe

Contributions to the study of the agitation of the Black Sea
on the Rumanian littoral. Studii hidrol 4:89-160 '63.

BONDAR, Constantin, ing.

The Rumanian-Soviet Oceanographic Expedition along the Danube
Delta coast. Meteorologia hidrol gosp 6 no.1869-70 '61.

BONDAR, G.V.; FILIP, I.

Contributions to the study of the Black Sea levels. Studi
hidrol 4:2-70 '63.

Name: BONDAR, E.

Dissertation: Synthesis and polymerization of esters of alphachloracrylic acid and investigation of the polymers obtained

Degree: Cand Tech Sci

Defended at

Affiliation: Min Higher Education USSR, Moscow Order of Lenin
Chemicotechnological Inst imeni D. I. Mendeleyev

Publication

Defense Date, Place: 1956, Moscow

Source: Knizhnaya Letopis', No 51, 1956

TRACHUK, S. V., kand. tekhn. nauk; CHEKAYDA, S. G. [Chekaida, S. H.];
BONDAR, B. P.; ZAKHARCHENKO, M. Yu.

Automation of a two-stage spray evaporating-drying unit. Khim.
prom. [Ukr.] no. 1:74-75 Ja-Mr '62. (MIRA 15:10)

1. Institut avtomatiki Gosplana UkrSSR.

(Drying apparatus) (Automatic control).

BONDAR', E. P., SEMUTER, M. F., BIBIKOVA, V. A., BURDELOV, A. S.,
ZHURAVLEVA, V. I., KALUCHENOVA, Z. P., MARTINOVSKIY, I. L.,
MOROZOVA, I. V., PEYSAKHIS, L. A., ROSSINSKAYA, O. B., SVIRIDOV, G. G.

"Certain laws governing the plague epizootic in the south
Balkhash area (Ili-Karatal interfluve)." p. 277

Desyatoya Soveshchaniye po parazitologicheskim problemam i
prirodnootchazhnyam boleznyam. 22-29 Oktyabrya 1959 g. (Tenth Conference
on Parasitological Problems and Diseases with Natural Foci 22-29
October 1959), Moscow-Leningrad, 1959, Academy of Medical Sciences
USSR and Academy of Sciences USSR, No. 1 254pp.

Central Asiatic Antiplague Inst./Alma^Ata

NAZAROV, I.; BONDAR', F.

Water-pumping stations. Inform.biul. VDNKH no.4:20 Ap '65.

(MIRA 18:5)

1. Glavnyy inzh. instituta Soyuzvodokanalproyekt (for Nazarov).

2. Nachal'nik gidrotekhnicheskogo otdela No.7 Soyuzvodokanalproyekta
(for Bondar').

ABRAMOV, N.N., prof., doktor tekhn.nauk; GENIYEV, N.N., prof., doktor tekhn.nauk [deceased]; PAVLOV, V.I., dotsent, kand.tekhn.nauk [deceased]. Primalni uchastiye: KLYACHKO, V.A.; KASTAL'SKIY, A.A.; POKROVSKIY, V.N.; MOSHIN, L.F., prof., retsenzent; MINTS, D.M., prof., retsenzent; ABRAMOV, S.K., dotsent, retsenzent; BONDAR', F.I., inzh., retsenzent; KROTOV, I.N., kand.tekhn.nauk, nauchnyy red.; SMIRNOVA, A.P., red.isd-va; MEDVEDEV, L.Ya., tekhn. red.; SOLNTSEVA, L.N., tekhn.red.

[Water-supply engineering] Vodosnabzhenie. Izd.3., perer. Moskva, Gos.isd-vo lit-ry po strcit., arkhitekt. i stroit.materialam, 1958. 578 p. (MIRA 12:5)

(Water-supply engineering)

GRATSIANSKIY, Mikhail Nikolayevich, dots., kand. tekhn.nauk;
ALEKSANDROVSKIY, Yuriy Vladimirovich, dots., kand. tekhn. nauk;
IZOTOV, B.S., dots., retsenzent; SUROV, I.Ye., inzh., retsen-
zent; BONDAR', F.I., inzh., retsenzent; SAMSONOVA, M.T., red.;
VORONINA, R.K., tekhn. red.

[Hydrology and hydraulic structures] Gidrologiia i gidrotekhnicheskoe sooruzheniia. Moskva, Gos. izd-vo "Vysshaia shkola," (MIRA 15:3)
1961. 351 p.

1. Kafedra gorodskogo stroitel'stva i khozyaystva Leningradskogo inzhenerno-stroitel'nogo instituta (for Izotov).
(Hydraulic engineering)

BONDAR', F.I.; YERESNOV, N.V.; SEMENOV, S.I.; SUROV, I.Ye.;
KONYUSHKOV, A.M., kand. tekhn. nauk, nauchn. red.;
SMIRNOVA, A.P., red.; GOL'BERG, T.M., tekhn. red.

[Special water-intake structures] Spetsial'nye vodozabor-
nye sooruzheniia. [By] F.I.Bondar' i dr. Moskva, Gosstroiz-
dat, 1963. 367 p. (MIRA 17:1)

BONDAR', G.

BONDAR', G. Sel'skoe khoziaistvo Belorussii na putiakh sotsialisticheskoi
rekonstruktsii. Moskva, Sel'khozgiz, 1931. 61 p.

DLC: Unclass.

So: IC, Soviet Geography, Part II, 1951/Unclassified

~~SECRET~~
BONDAR', G., agronom

Accelerated method of determining soil acidity. Nauka i pered. op.
v sel'khoz. 8 no.1:39-40 Ja '58. (MIRA 11:2)

1. Kitsmanskiy sel'skokhozyaystvennyy tekhnikum, Chernovitskoy
oblasti.

(Soil acidity)

BODNAR, Gyorgy

"Aluminum supporting structures to open-air switchboards."
Reviewed by Gyorgy Bodnar. Villamossag 8 no.1:27-28 Ja '60.

BODNAR, Gyergy

"A new type cable insulated with mineral substances." Reviewed
by Gyergy Bodnar. Villamossag 8 no.1:28-29 Ja '60.

BCDNAR, Gyorgy

"Ultrasonic soldering of aluminum" by Thomas I. Scarpa. Reviewed
by Gyorgy Bodnar. Villamossag 8 no.1:29 Ja '60.

BODNAR, Gyorgy; GREGOR, Aladar

News. Villamossag 8 no.1:31-32 Ja '60.

1. "Villamossag" foszerkeszteje (for Gregor).

BODNAR, Gyorgy

"Use of radar in highway transportation." Reviewed by Gyorgy Bodnar. Villamossag 8 no.5/6:184-185 My-Je '60.

1. "Villamossag" szerkeszto bizottsagi tagja.

BODNAR, Gyorgy

"A 500 meter high television tower in Moscow." Reviewed by Gyorgy Bodnar. Villamossag 8 no.5/6:185 My-Je '60.

1. "Villamossag" szerkeszto bizottsagi tagja.

BODNAR, Gyorgy

"Dampproof electric flashlight apparatus." Reviewed by Gyorgy Bodnar. Villamossag 8 no.5/6:186 My-Je '60.

1. "Villamossag" szerkeszto bizottsagi tagja.

BODNAR, Gyorgy

News. Villamossag 8 no. 4/6:187-189 My-Je '60.

1. "Villamossag" szerkeszto bizottsagi tagja.

BODNAR, Gyorgy

"Electric household appliances in the United States" by W. Strah-
ringer. Reviewed by Gyorgy Bodnar. Villamossag" 8 no.8/9:280-
282 Ag-S '60.

1. "Villamossag" szerkeszto bizottsagi tagja.

BODNAR, Gyorgy

"Electric ear for detecting methane bursts." Reviewed by Gyorgy Bodnar. Villamossag" 8 no.8/9:282 Ag-S '60.

1. "Villamossag" szerkeszto bizottsagi tagja.

BODNAR, Gyorgy

Projector combined with a magnetophone. "Villamossag" 8 no.10:
317 0 '60.

1. "Villamossag" szerkeszto bizottsagi tagja.

BODNAR, Gyorgy

"Duplicates within 2 minutes." Reviewed by Gyorgy Bodnar.
"Villamossag" 8 no.10:317 0 '60.

1. "Villamossag" szerkeszto bizottsagi tagja.

BODNAR, Gyorgy

"Manual electric engraving device." Reviewed by Gyorgy Bodnar.

"Villamosság" 8 no.10:317 0 '60.

1. "Villamosság" szerkeszto bizottsagi tagja.

BODNAR, Gyorgy; TURAN, Gyorgy

News. "Villamossag" 8 no.10:320 0 '60.

1. "Villamossag" szerkeszto bizottsagi taja (for Bodnar).
2. "Villamossag" szerkesztoje (for Turan).

BODNAR, Gyorgy

Electrohydraulic hoisting device. Villamossag 8 no.11:347-348
N '60.

1. "Villamossag" szerkeszto bizottsagi tagja.

BODNAR, Gyorgy

"Exchange of experineces with the Soviet Union in the field of
supplying electric power for agriculture" by Dipl.Ing. J.H.
Friedrich and Dipl.Ing. G. Schwenker. Reviewed by Gyorgy Bodnar.
Villamossag 10 no.9:280-281 S '62.

1. "Villamossag" szerkeszto bizottsagi tagja.

BODNAR, Gyorgy

Technical novelties. Villamosság 10 no.10:315-318 0 '62.

1. "Villamosság" szerkeszto bizottsagi tagja.

L 10003-63 EWT(1)/EWG(k)/FCC(w)/BDS/EEC-2/ES(t)-2/ES(v)-
AFFTC/ASD/ESD-3/APGC/SSD-Pz-4/Pg-4/P1-4/P1-4/Pe-4-GH
ACCESSION NR: AP3001132 S/0106/63/000/006/0002/0009 87

AUTHOR: Kashcheyev, B. L.; Chepura, V. F.; Bondar', B. G.

TITLE: An investigation of UHF radio signal scattering by meteor ⁸trails ¹²

SOURCE: Elektrosvyaz', no. 6, 1963, 2-9

TOPIC TAGS: radio signal scattering, meteor trails, UHF oblique scattering, duration distributions, transmission speed

ABSTRACT: An experimental study of the oblique scattering of ultrashort waves by meteor trails was carried out over a 900-km path. Both 31.2- and 48-Mc transmitters were used in the measurements. The 31.2-Mc transmitter was modulated by a code consisting of two pulses with durations of 20 + 10 microsec and having a peak power of 30 kw at 50 cps prf. The 48-Mc transmitter was modulated by 100-cps square waves with peak power of 1 kw. The bandwidths of the 31.2- and 48-Mc receivers at the 3-db level were 225 kc and 600 cps, respectively. Both transmission and reception were carried out with the aid of Yagi antennas placed at a height of 1.5 wavelengths above the ground. The

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ACCESSION NR: AP3001132

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total duration of meteor signals for 31.75 hours of observations was 3026 sec, while the total duration of "repeated" signals, i.e., signals shifted in time which are caused by scattering and which accompany the main signal, was 280 sec for the same period of time. The maximum observed time shift of repeated signals was 770 microsec. Since the degree of allowable distortion due to repeated signals determines telegraphic transmission speeds, the 770-microsec time shift would limit this speed to 650 band. Certain statistical regularities which characterize the duration and amplitude distribution of signals, time intervals between signals, and the dependence of the signal on the time of day and season were also studied. Orig. art. has: 12 figures and 3 formulas.

ASSOCIATION: none

SUBMITTED: 26Dec61

DATE ACQ: 01Jul63

ENCL: 00

SUB CODE: 00

NO REF SOV: 000

OTHER: 004

RT/PR
Card 2/2

BONDAR', G.D.

Introduction of new techniques to the Korystovo Alcohol Plant.

Spir. prom. 26 no.8:35-36 '60.

(MIRA 13:11)

(Korystovo--Alcohol)

BONDAR, G. G.

Technology

Experience in increasing the efficiency of locomotives. Moskva, Transzheld-
orizdat, 1945.

9. Monthly List of Russian Accessions, Library of Congress, August 1958; Unclassified.

24 (

SOV/21-59-6-7/27

AUTHOR: Bondar', G. G.

TITLE: Determination of Bending Moments with Free Vibrations of Gently-Sloping Parabolic Arches on Elastic Supports

PERIODICAL: Dopovidi Akademii Nauk Ukrain's'koi RSR, 1959, Nr 6
pp 600 - 604 (USSR)

ABSTRACT: The author presents a new method for determining bending moments with free vibrations of flatly-sloping parabolic arches on elastic supports. The calculation is based on solving the differential equation of dynamic moments. Equations of frequencies, fundamental functions and general expressions for bending moments are obtained for the case of symmetrical and asymmetrical forms of vibrations. For the beginning, the author considers steady vibrations of symmetric, parabolic, gently sloping ($\frac{l}{l}$ up to 0.15) arches, in which the inertia moments in crosscuts change in accordance with the law $J_3 = J_x \cos \varphi_x$, where J_3 is crosscut inertia moment in lock, J_x is crosscut inertia

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Determination of Bending Moments with Free Vibrations of Gently-Sloping
Parabolic Arches on Elastic Supports

moment at a distance x from the lock, φ is an angle between the tangent of arch axis and the horizontal line at intersection with abscissa x . The arch ends (see drawing on page 600) are elastically resting and fixed on supports, so that between the forces of cross section thrust and displacement of cross sections there exist the following dependences:

$$\varphi(-l/2) = -C^{\varphi}M(-l/2), \quad v^x(-l/2) = -C^xN(-l/2), \quad v^y(-l/2) =$$

$$C^yQ(-l/2), \quad \varphi(l/2) = C^{\varphi}M(l/2), \quad v^x(l/2) = C^xN(l/2),$$

$$v^y(l/2) = -C^yQ(l/2),$$

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where C^{φ} , C^y , C^x are true coefficients of pliability of supports to twisting and displacement forces in vertical and

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horizontal directions, characterizing the supports' rigidity; v^y and v^x are vertical and horizontal displacements; d^y , d^x and d_x are reduced pliability coefficients. Having made a static calculation of the arch, the author obtains the equation (2), where

$$n=1 + \frac{45^1 3^2}{4f^2}, \quad i = \sqrt{\frac{J_3}{F}}, \quad u = \frac{x}{l}$$

A steadily vibrating arch experiences the influence of vertically-distributed inertia forces, the intensity of which is $q(x,t) = m^y \ddot{v}^y(x,t)$. Horizontal inertia forces are neglected as being too small. The arch inertia load thrust is expressed as (3), where $\eta(s)$ (linear form of thrust influence) =

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Determination of Bending Moments with Free Vibrations of Gently-Sloping
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$$\eta(s) = A \left(\frac{s}{l} \right)^4 - B \left(\frac{s}{l} \right)^2 + D.$$

Bending moments arising in the process of free vibrations can be expressed as $M(x,t) = M_0(x,t) - H(t) \cdot y_1(x)$ (4) where $M_0(x,t)$ is the bending moment, $y_1(x)$ is the height of arch axis over the level of supports,

$$y_1(x) = f - \frac{4f}{l^2} x^2. \quad (5)$$

Having introduced in expression (4) the dependencies (3) and (5), and having twice differentiated the new expression by x , the author obtained the expression (6), writes it, on the basis of Zhuravskiy dependency: $M_0''(x,t) = m \ddot{v}(x,t)$ in the form of (7) and then, applying Fourier's (Furye) method,

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formulates the bending moments and caving-in in the form of (8). Hence, the author by a series of calculations, differentiations, substitutions of expressions one for another, etc., proceeds to formulating the fundamental function of oblique-symmetrical vibration forms as

$$\Phi_M = \sin kx (\operatorname{ch} \gamma + \psi \operatorname{sh} \gamma) + \operatorname{sh} kx \cdot$$

$$\cdot (\cos \gamma - \psi \sin \gamma) \quad (24)$$

where γ represents the root equation (23). By way of putting into (8) the values of Φ_M (22) or (24), or (11), the author formulates the final expressions of bending moments:

for symmetric vibrations $M(x,t) = [(\operatorname{sh} \gamma + \psi \operatorname{ch} \gamma) \cdot$

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$$\cdot \cos kx - (\sin \gamma + \cos \gamma) \operatorname{ch} kx] \times [A_1 \sin \theta t + A_2 \cos \theta t] ;$$

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Determination of Bending Moments with Free Vibrations of Gently-Sloping
Parabolic Arches on Elastic Supports

for oblique-symmetric ones $M(x,t) = [(ch\gamma + \psi sh\gamma) \sin kx + (\cos \gamma - \psi \sin \gamma) shkx] \times [A_1 \sin \theta t + A_2 \cos \theta t]$,
wherein coefficients A_1 and A_2 are ascertained from the
initial conditions. Assuming that $d_x = d_y = 0$; $d\varphi = \infty$, or $d = 0$
(in equations (21) and (23)), it is possible to form frequency
equations for a double-hinged or a hingeless arch in which the
expressions (25) and (26) are transformed into expressions
applicable to calculation of bending moments in double-hinge
and hingeless arches. There is 1 diagram.

ASSOCIATION: Dnepropetrovskiy metallurgicheskii institut (Dnepropetrovsk
Institute of Metallurgy)

PRESENTED: By G. N. Savin, Member, AS UkrSSR

SUBMITTED: January 21, 1959

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18.5100,25.5000

77466

SOV/133-60-1-27/30

AUTHORS: Bondar', G. G., Zdornov, I. V. (Engineers)

TITLE: Calculations of Metal Saving in Introducing New Standards for Rolled Structural Steel

PERIODICAL: Stal', 1960, Nr 1, pp 82-84 (USSR)

ABSTRACT: Much attention has been given to metal saving in determining the economic expediency of new-type rolled shapes. Therefore, the authors propose a method of calculating the saving of metal which results from the substitution of enlightened beams according to State Standards (GOST 8239-56) for standard I-beams (OST 10016-39) using the following equation:

$$\Delta = \frac{G - G_1}{G} \times 100,$$

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where G and G_1 = weight of 1 running meter of the old and new profile respectively, in kg. Since old profiles

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may be replaced by several new profiles of different sizes (indicated by numbers), $G_{1\text{mean}}$ (mean value of

the weight of 1 running meter of the new profiles) should be substituted in the above equation. Calculating the mean saving of metal in replacing profile Nr 16 by enlightened profiles Nrs 16 and 18 (see Fig. 2) the authors assume that distribution of section modulus W is uniform within the entire range of replacement. This assumption may not be absolutely precise, but deviations from uniformity of W in different profiles would increase or decrease saving very slightly.

$G_{1\text{mean}}$ is determined from (see Fig. 2):

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Calculations of Metal Saving in Introducing New Standards for Rolled Structural Steel

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SOV/133-60-1-27/30

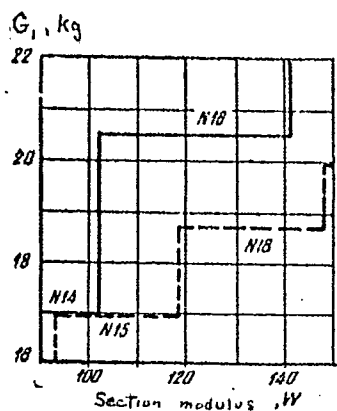


Fig. 2. Diagrammatic representation of replacement of standard I-beam profile Nr 16 (continuous line) by enlightened profile (dotted line) according to the section modulus.

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Calculations of Metal Saving in Introducing New Standards for Rolled Structural Steel

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$$G_{\text{mean}} = \frac{G_1^{16}(W_1^{16} - W_1^{14}) + G_1^{18}(W_1^{18} - W_1^{16})}{W_1^{18} - W_1^{14}} =$$

$$= \frac{16,9(118 - 102) + 18,7(141 - 118)}{141 - 102} \approx 17,9 \text{ kg. (2)}$$

Subscripts indicate the size numbers of the profiles. With reference to the use of enlightened I-beams the authors arrive at the following conclusions: (1) The 14% saving calculated by L. L. Zusman (see "Saving of Ferrous Metals," Metallurgizdat, 1958 (Ref 4) and Stal', 1956, Nr 12 (Ref 5)) approximates actual possible economy. (2) A saving of metal amounting to 10-13% for the entire Soviet Union is feasible. (3) Mean metal saving is somewhat higher by including lettered profiles (11.8%), indicating that the selection of lettered profiles in the variety of shapes according to the new standard has become more rational. In a footnote, the editor estimates a saving in excess

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Calculations of Metal Saving in Introducing New Standards for Rolled Structural Steel

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of 11.8%, since the authors fail to consider the additional widening of the flanges of enlightened profiles. There are 2 figures; 3 tables; and 5 Soviet references.

Card 5/5

BONDAR', G. G., CAND TECH SCI, "OSCILLATIONS OF PARABOLIC
ARCS ON ELASTIC BEARINGS." DNEPROPETROVSK, 1960. (MIN OF
RAILWAYS. DNEPROPETROVSK INST ^{of} ^{tech of} st ENGIN RAILROAD TRANSP). (KL,
2-61, 207).

-116-

KANDYLS, V.A.; POPKOVA, T.F.; BONDAR', G.V.

Case of hemangioendothelioma of the spleen. Klin. khir. no.1:60-61
'65. (MIRA 18:8)

1. Propedevticheskaya khirurgicheskaya klinika No.1 (zav. -- dotsent
A.M.Ganichkin) Dcnetskogo meditsinskogo instituta na baze Oblastnoy
klinicheskoy bel'nitsy imeni Kalinina.

BONDAR, I.

Using sea shells in making lime. Sil'.bud. 8 no.2:14-15 F '58.
(MIRA 13:7)

1. Starshiy inzh-tekhnolog Zaporozhskogo oblastnogo upravleniya
po stroitel'stvu v kolhozakh.
(Lime) (Shells)

BONDAR, I.

Use only local materials in building. Sil'.bud. 10 no.5:6-7
My '60. (MIRA 13:7)

1. Nachal'nik upravleniya stroitel'stva Zaporozhskogo oblastnogo
upravleniya sel'skogo khozyaystva.
(Zaporozh'ye Province--Building materials)

BONDAR, I.

The production of clay tile and reinforced concrete is increasing.
Sil'. bud. 12 no.1:13-14 Ja '62. (MIRA 16:12)

1. Nachal'nik upravleniya stroitel'stva Zaporozhskogo oblastnogo
ob'yedineniya "Sil'gosptekniki."

BONDAR, I.

We are building town-like villages. Sil' bud. 11 no.3:5-6 Mr '61.
(MIRA 14:2)

1. Nachal'nik Upravleniya stroitel'stva Zaporozhskogo obl'sel'khoz-
upravleniya.

(Zaporozh'ye Province--City planning)

BONDAR, I.

Collective farms build large poultry houses. Sil'. bud. 12
no.5:3-4 My '62. (MIRA 16:4)

1. Nachal'nik upravleniya stroitel'stva Zaporozhskogo
oblastnogo ob'yedineniya "Sil'gosptekhnika".
(Poultry houses and equipment)

BONDAR, I.

Sawdust-cement slabs for built-up roofs. Sil'. bud. 13 no.2:18
F '63. (MIRA 16:2)

1. Nachal'nik otдела stroitel'stva Zaporozhskogo oblastnogo uprav-
leniya proizvodstva i zagotovok sel'skokhozyaystvennykh produktov.

JAVORKA, Ede; BONDAR, Istvan

Which one is the most suitable television antenna designed by
the Telecommunication Engineering Enterprise? Pt.3. Radiotechnika
15 no.6:222-223 Je '65.

23507

H/009/61/000/004/003/005
D018/D105

9,1911

AUTHOR: Bondár, István, Member of the Society (see Association)

TITLE: Determining the size of Yagi television and UHF receiving antennas

PERIODICAL: Magyar Híradástechnika, no. 4, 1961, 150-157

TEXT: The article gives a comprehensive review of the Yagi antenna designs in general and summarizes the experience in antenna design gained by the Híradótechnikai Vállalat (Communication Engineering Enterprise) in Budapest during recent years. Due to complexity of formulas for calculating the feeding point impedance and radiation impedance of Yagi antennas, experimental results are preferred as a basis for antenna designs. During the last 3 years, the HTV developed 7 types of television and UHF receiving antennas, a total of 130 in all. Low-frequency antennas are produced with T-feed active elements and high-frequency antennas with half-wave folded dipoles; the total length of T-arms of 2-element low-frequency antennas is half the length of active elements, while that of 4-element

Card 1/5

Determining the size of Yagi television

²³⁵⁰⁷
H/009/61/000/004/003/005
D018/D105

antennas is about 43% the total length of active elements. The reflector of 2-element antennas is about 11%, and of 4-element antennas, 4% longer than the active elements; the first director of 4-element antennas is 15% shorter, and the second, 22% shorter, than the active elements. The bandwidth of these antennas is 8 mc/sec at the standing wave ratio of

$\rho \leq 2.2$, with an antenna gain of 3.6 and 5.3 db, respectively. The reflector of broadband antennas produced by the HTV is 30% longer and the first director 15% shorter than the active elements. These antennas have a bandwidth of 56 mc/sec at a standing wave ratio of $\rho \leq 2$ and an average gain of 8 db. The reflector of 10-element antennas for 2-channel television reception is 17% longer and the first director 8% shorter than the active elements; the bandwidth is 16 mc/sec at a standing wave ratio of

$\rho \leq 2$ and the antenna gain, 10.5 db. The reflector of the 2-channel, 15-element "Domino" antenna is 50% longer and the first director 13% shorter than the active elements; the bandwidth is 16 mc/sec at a standing wave ratio of $\rho \leq 2$ and the average antenna gain 11.5 db. The relative

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D018/D105

Determining the size of Yagi television

electric length of this antenna is about 2.5. The 4-element "Domino" antennas with a gain of 5 db can also be used for building 7, 9, 12 and 15-element antennas without altering the bandwidth and the feeding point impedance. The 7-element antenna which can be built by adding 3 directors to the 4-element antenna, has a gain of 8.5, the 9-element antenna built by the same principle a gain of 9.5 and the 12-element antenna a gain of 10.5 db. The forward -to-backward ratio of 2-element antennas produced by the HTV is 10.5, of 4-element antennas, 15.5 of broadband antennas 23.4 and of 10-element antennas 24 db. Fig. 11 shows the directional characteristics of the 10-element TETA C 810/101 antenna produced by the HTV. During the last 3 years the HTV carried out around 1,000 measurements which proved that (1) the working range of an antenna is determined by the active element; (2) the gain is in proportion to the relative electric length and the number of elements; (3) the bandwidth depends primarily on the length of director and its distance from the active element; (4) the forward-to-backward ratio can be adjusted through the length

Card 3/5

23507

H/009/61/000/004/003/005
D018/D105

Determining the size of Yagi television

of the reflector and its distance from the active element and (5) the feeding point impedance is affected by the active element, the first director and the reflector. There are 11 figures and 8 references: 1 Soviet-bloc and 7 non-Soviet-bloc. The four most recent references to English-language publications read as follows: R.G. Medhurst: Dipole Aerials in Close Proximity. Wireless Engineer, Dec. 1951, p 356-358; L. Lewin: Mutual Impedance of Wire Aerials. Wireless Engineer, Dec. 1951, p. 352-355; G. Barzilai: Mutual Impedance of Parallel Aerials. Wireless Engineer, Nov. 1948, p. 343-352; S.A. Schelkunoff and H.T. Friis: Antenna, Theory and Practice. John Wiley and Sons, Inc. 1952.

ASSOCIATION: Híradástechnikai Tudományos Egyesület (Communication Scientific Society) and Híradótechnikai Vállalat (Communication Engineering Enterprise).

Card 4/5

BONDAR, Istvan.

Dimensioning of Yagi system television and ultrashort wave receiving antennas. Magy hir techn 12 no.4:150-157 Ag '61.

1. Híradastechnikai Tudományos Egyesület tagja; Híradastechnikai Vallalat.

JAVORKA, Ede; BONDAR, Istvan

Which is the best television antenna available at the
Telecommunication Engineering Enterprise? Radiotechnika 15
no.4:130-131 Ap '65.

BONDAR', I. A.

Cand Chem Sci

Dissertation: "Transformations in the Iron-Chromium-Nickel System at Solid State." 18/10/50

Inst of General and Inorganic Chemistry imeni N. S. Kurnakov.

SO Vecheryaya Moskva
Sum 71

BONDAR, I. A.

Chemical Abstracts
May 25, 1954
Metallurgy and Metallography

✓ The chemical nature of the σ -phase in the system iron-chromium. A. T. Grigor'ev, N. M. Gruzdeva, and I. A. Bondar (N. S. Kurnakov Inst. Gen. Inorg. Chem., Acad. Sci. U.S.S.R., Moscow). *Izvest. Sektora Fiz.-Khim. Anal., Inst. Obshchei Neorg. Khim., Akad. Nauk S.S.S.R.* 21, 132-43(1952).—The investigated binary system Fe-Cr was part of a ternary Co-Cr-Fe system and of a Fe-Cr system contg. 2% Ni. The alloys studied were homogenized at 1200° for several hrs. They were then annealed at constantly decreasing temps. for constantly longer periods starting with 1000° for 6 days and extending to 12 days at 500°. Addnl. anneal was given the alloys at temps. below the α and $\alpha + \sigma$ boundary down to room temp. at 100° intervals. In this range the duration was 20-30 days for each step. Thus prepd. specimens were subjected to thermal, dilatometric, microscopic, hardness, and magnetic transformation analyses. A homogenous σ -phase extended from 48-47 to 50-51% Cr. In the presence of 2% Ni the σ -phase extended between 44 and 53% Cr. The boundary between the areas of α and $\alpha + \sigma$ on the Fe side is along approx. 30.5 at. % Cr. The highest hardness was observed in alloys contg. 49.98 at. % Cr. This is within the area of homogenous σ -phase. The absence of a singular point on the hardness curve for the Fe:Cr at. ratio 1:1 indicates that the σ -phase is berthollitic rather than a carbide. The $\alpha \rightleftharpoons \sigma$ transformation was at 910°. This is higher than the 810° given by Cook and Jones (*Metallurgia* 225(1943); *C.I.* 37, 6232°). The difference is explained by the difference in procedure: the rapid heating employed in thermal and dilatometric analyses in this investigation and the prolonged thermal treatment used by Cook and Jones.
M. Hoch.

Bondar, I. A.

17 12
 Transformations in solid state in the system ~~iron-chromium-nickel~~ 1. Distribution of phase domains at room temperature. A. T. Grigor'ev and I. A. Bondar. *Sbornik Fiz.-Khim. Anal., Akad. Nauk SSSR* 25: 12-14, 1951. The purpose of this investigation was to determine the state of the system Fe-Cr-Ni with up to 50% Cr and 20% Ni. Alloy specimens were held at 1000°C for 100 hours, then the temp. was lowered stepwise by 100°C, and as the temp. decreased, the total time was 100 hrs. Phase boundaries were ascertained by microscopic examine, and detn. of microhardness. On the phase diagram of this system are found 3 monophase areas α , β , and γ , four 2-phase areas $\alpha + \gamma$, $\gamma + \beta$, $\beta + \alpha$, and $\alpha + \beta$, and two 3-phase areas $\alpha + \gamma + \beta$ and $\alpha + \beta + \gamma$. M. Hirsch.

BONDAR, I. A.

③ 1493. Phase diagram of the ternary system $\text{BaO}-\text{Al}_2\text{O}_3-\text{SiO}_2$.—N. A. TOROPOV, E. YA. GALAKHOV, and I. A. BONDAR (*C.R. Acad. Sci. U.R.S.S.*, 89, 89, 1953).

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Bondar, I. A.

Diagram of state for the ternary system $\text{BaO}-\text{Al}_2\text{O}_3-\text{SiO}_2$.
N. A. Teropov, F. Ya. Galukhov, and I. A. Bondar. *Bull.*
Acad. Sci. U.S.S.R., Div. Chem. Sci. 1954, 647-55 (Engl.
translation).—See *C.A.* 49, 6711h.

CH

R.M. Rose

(2)

PONDAR, L.A.

USSR.

Diagram of state for the ternary system $\text{BaO}-\text{Al}_2\text{O}_3-\text{SiO}_2$.
 N. A. Toronov, E. Ya. Galakhov, and L. A. Bender.
 Izvest. Akad. Nauk S.S.S.R., *Chem. Khim.*, 1954, 723-
 64. — The system consisted of 13 fields of stability for the
 various phases. A ternary solid soln. is formed with $3\text{BaO}-$
 3SiO_2 , $\text{BaO} \cdot 2\text{SiO}_2$, and $\text{BaO} \cdot \text{Al}_2\text{O}_3 \cdot 2\text{SiO}_2$. A new aluminosilicate
 was found, having the compn. $3\text{BaO} \cdot 3\text{Al}_2\text{O}_3 \cdot 2\text{SiO}_2$,
 which, upon fusion, decomp. J. Royston Leach

AT 62

U S S R

13228 The Chemical Nature of the Sigma Phase in the Iron-Chromium System. A. T. Grigorev, N. M. Grigoreva, and I. A. Bondar. *Henry Brucher Translation No. 3454*, 13 p. (Condensed from *Izvestiya Sektora Fiziko-Khimicheskogo Analiza*, v. 21, 1954, p. 132-143.) Henry Brucher, Altadena, Calif. Discussion of nature of σ phase in the light of hardness measurements. Correlation of results of present research with literature (chiefly Russian). Tables, diagrams, micrographs. 7 ref.

2

GRIGOR'YEV, A.T.; BONDAR', I.A.

Solid-state conversions in the system: iron — chromium — nickel.
Report no.2. Structural diagram. Izv.Sekt.fiz.-khim.anal. no.25:
94-116 '54. (MIRA 8:5)

1. Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova
Akademii nauk SSSR.
(Iron-chromium-nickel alloys)

BONDAR', I. A.

USSR/ Chemistry - Silicates

Card 1/1 Pub. 40 - 1/27

Authors : Toropov, N. A.; Galakhov, F. Ya.; and Bondar', I. A.

Title : Solid solutions formed by celsian, dibarium trisilicate and barium disilicate (Sanbornite)

Periodical : Izv. AN SSSR. Otd. khim. nauk 1, 3-8, Jan-Feb 1955

Abstract : Experiments were conducted to establish the zone, boundaries and liquidus of a ternary solid solution formed by barium disilicate, dibarium trisilicate and celsian. It was found that the refraction index for this zone depends largely upon the barium disilicate and aluminum oxide contents of the solution. The refraction index decreases with the increase of barium disilicate and Al_2O_3 . The equilibrium ratio of the investigated solution was established on the basis of several polythermal samples with constant Al_2O_3 contents. Two USA references (1922 and 1950). Graphs; table; illustrations.

Institution : Acad. of Sc., USSR, Institute of Chem. of Silicates

Submitted : January 28, 1954

AID P - 1371

Subject : USSR/Chemistry

Card 1/1 Pub. 119 - 4/6

Authors : Toropov, N. A. and Bondar', I. A., (Leningrad)

Title : Fluoberyllates and other crystallochemical analogs of
silicates and like substances

Periodical : Usp. khim., 23, no. 1, 52-68, 1955

Abstract : A survey of the literature on fluoberyllates is given;
most of the references are to non-Russian sources. A
high degree of analogy is found between BeF_2 and SiO_2 .
Many binary systems are reviewed. Twenty diagrams, 2
tables, 37 references (7 Russian: 1939-53).

Institution : None

Submitted : No date

"The Effect of Calcium Fluoride on the Crystallization Process
in the Trivalent System $\text{CaO-Al}_2\text{O}_3\text{-SiO}_2$ " a paper read at the
International Metallurgists' Conference, Moscow 26-30 June 56

SO: CS-3,302,240, 11 Jan 57.

BONDAR, I. A.

15-57-7-9444

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7,
pp 103-104 (USSR)

AUTHORS: Toropov, N. A., Bondar', I. A.

TITLE: Synthesis of a Fluoberyllate Type of the Double Calcium
and Barium Metasilicate (Sintez ftoroberillatnoy modeli
dvoynogo metasilikata kal'tsiya i bariya)

PERIODICAL: Sb. nauch. rabot po khimi i tekhnol. silikatov, Moscow,
Promstroyizdat, 1956, pp 20-23.

ABSTRACT: The compound $2\text{NaF} \cdot \text{KF} \cdot 3\text{BeF}_2$, the fluoberyllate analogue
of the double calcium and barium metasilicate $2\text{CaO} \cdot \text{BaO} \cdot$
 3SiO_2 , has been synthesized. The following were used
in the synthesis: 1) sodium fluoride (98 percent NaF),
2) potassium fluoride in the form of $\text{KF} \cdot \text{H}_2\text{O}$ (77 percent
KF), and 3) beryllium fluoride, obtained by treating
beryllium oxide with hydrofluoric acid (97.5 percent
 BeF_2). The fusion was made in a covered platinum cruci-
ble in a crucible furnace and then quenched (the
melt poured out into a pan). To compare the compound

Card 1/4

15-57-7-9444

. Synthesis of a Fluoberyllate Type (Cont.)

$2\text{NaF} \cdot \text{KF} \cdot 3\text{BeF}_2$ with $2\text{CaO} \cdot \text{BaO} \cdot 3\text{SiO}_2$ the latter was synthesized by the method described earlier by N. A. Toropov, F. Ya. Galakhov, I. A. Bondar', Izv. AN SSSR (OKhN), 1954, Nr 5, p 753. The samples were studied microscopically, by X-ray methods (CoK α radiation in a cylindrical chamber), by thermal analysis (fluoberyllate), and by specific gravity determination (with kerosene in a pycnometer at 20°). The study of the system NaF-KF-BeF₂ has established the fact that the compound $2\text{NaF} \cdot \text{KF} \cdot 3\text{BeF}_2$ occurs as a type of $2\text{CaO} \cdot \text{BaO} \cdot 3\text{SiO}_2$ in the system CaO-BaO-SiO₂. Synthetic $2\text{NaF} \cdot \text{KF} \cdot 3\text{BeF}_2$ forms elongated tabular crystals. Ng is 1.366 + (sic) 0.003; Np is 1.352 + (sic) 0.003; and Ng - Np = 0.014. The specific gravity is 2.98. For crystals of $2\text{CaO} \cdot \text{BaO} \cdot 3\text{SiO}_2$, Ng is 1.681, Np 1.668, and Ng - Np 0.013. The specific gravity is 4.69. The crystals form as small aggregates. The results of X-ray analyses for the investigated samples are given (see Table).

Card 2/4

15-57-7-9444

Synthesis of a Fluoberyllate Type (Cont.)

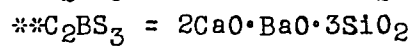
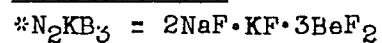
I/I ₀	¹ N ₂ KB ₃	⁸ N ₂ KB ₃ *	⁴ N ₂ KB ₃	¹ C ₂ BS ₃	⁸ C ₂ BS ₃ **	⁴ C ₂ BS ₃	Remarks
5	20.27	17.84	2.93	17.66	17.66	2.95	Thickness of sample N ₂ KB ₃ = 0.5 mm
1	21.78	19.17	2.72	19.16	19.16	2.73	
1	22.58	19.87	2.63	19.86	19.86	2.64	
1	23.38	20.57	2.55	20.36	20.36	2.57	
1	27.19	23.93	2.21	23.47	23.47	2.24	
1	27.89	24.54	2.16	24.37	24.37	2.17	Thickness of sample C ₂ BS ₃ = 0.3 mm
2	30.20	26.58	2.00	26.37	26.37	2.02	
1	34.21	30.10	1.78	29.58	29.58	1.80	
1	36.12	31.79	1.70	31.08	31.08	1.73	

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15-57-7-9444

Synthesis of a Fluoberyllate Type (Cont.)

1	37.88	33.33	1.63	32.39	32.89	1.67	$R_{\text{eff}} = \frac{57.20}{2}$
1	40.34	35.50	1.54	34.89	34.39	1.57	
1	43.85	38.59	1.44	37.90	37.90	1.46	
1	46.66	41.06	1.36	40.21	40.21	1.38	
1	49.87	43.89	1.29	42.51	42.51	1.32	
1	52.58	46.27	1.24	44.82	44.82	1.27	
1	--	--	--	48.93	48.93	1.19	



Card 4/4

N. I. Kulayeva

I. A. Bondar

(8) 43

PHASE I BOOK EXPLOITATION

30V/2117

Совещания по экспериментальной технике и методам высокотемпературных исследований, 1956

**Isiperialentia, para tehnika i metod isledovaniya pri vysokih tem-
peraturakh; izudy sovetskikh i zarubezhnykh eksperimentalnykh tekhnik i
metodov i investitsiya v khitimicheskuyu tekhnologiyu i transformatsiya
konferentsiya na eksperimentalnykh tekhnikakh i metodakh investitsionnoy
akademiya nauk SSSR. Moscow, AN SSSR, 1969. 788 p. (Seriya
khimicheskoye obozreniye. Protivodostoyaniye. Zhurnal po khimii-
2,200 copies printed.**

Resp. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of Sciences, Ed. of Publishing House: A.L. Bankovskiy.

FOREWORD: This book is intended for metallurgists and metallurgical engineers.

COVERAGES: This collection of scientific papers is divided into six parts: 1) thermodynamic activity and kinetics of high-temperature processes 2) conduction diagram studies 3) physical properties of liquid metals and alloys 4) new analytical methods and production of pure metals 5) pyrometry, and 6) general questions. For more specific coverages, see Table of Contents.

Toporov, N.A., and I.A. Bondar'. Effect of Calcium Fluoride on the Crystallization Process in the Ternary System $\text{CaO-Al}_2\text{O}_3\text{-SiO}_2$

205

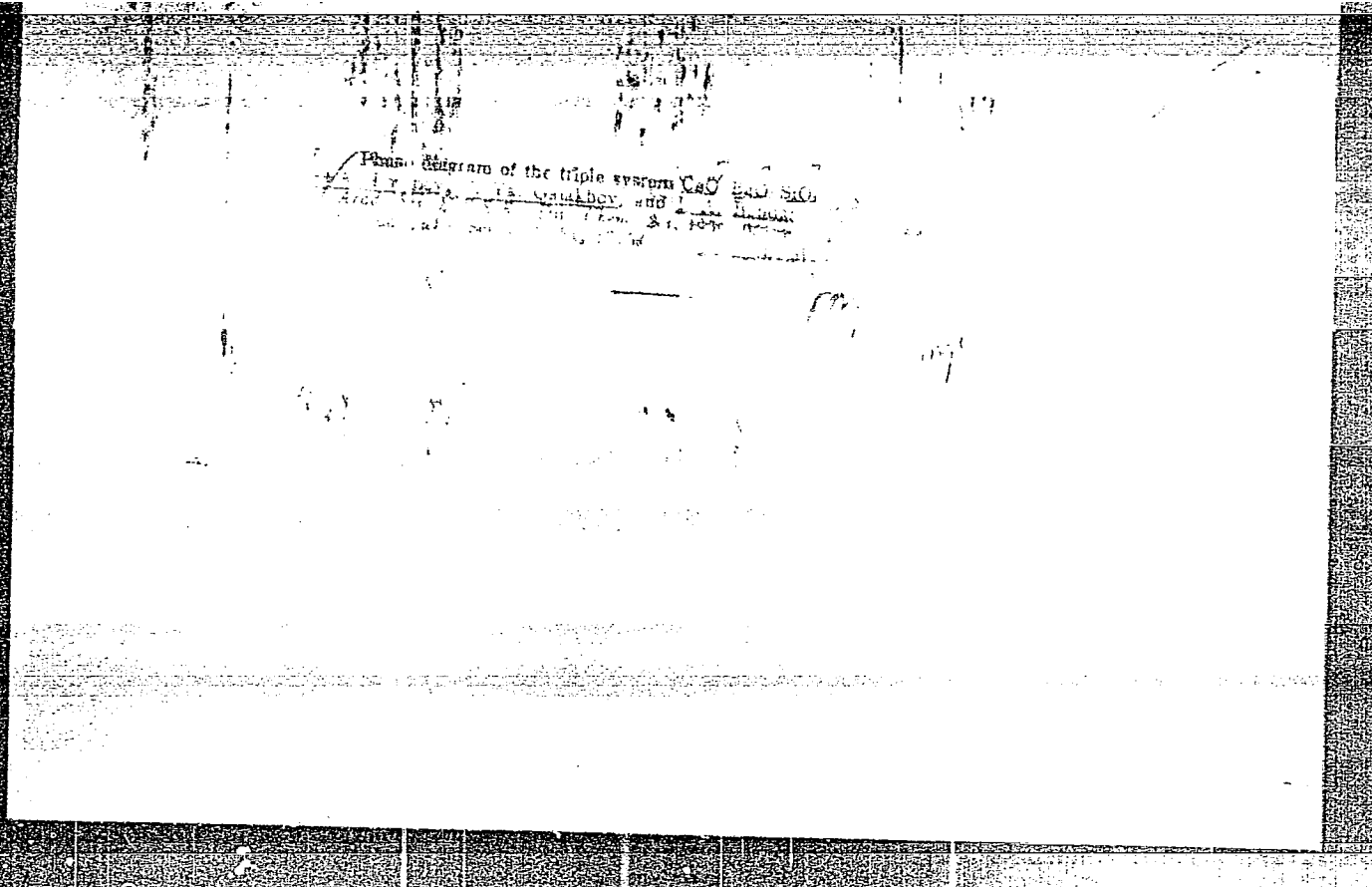
It was shown that the addition of 5 percent of Ca_2 decreases the viscosity of the melt and lowers the temperature of crystallization by 50–70 percent. Ca_2 can be used as an activator of the binding properties of blast-furnace gas, as 5 percent of Ca_2 lowers the refractive index of glasses. Ca_2 occupies the third, fourth, and fifth places. A section with a constant Ca_2 content is a desirable place. A section with the investigated portion of the $\text{CaO-Al}_2\text{O}_3\text{-SiO}_2\text{-Ca}_2$ quaternary system, adjacent to the CaO-SiO_2 side and extending from 20 to 65 percent SiO_2 and 0 percent Al_2O_3 .

Rukhoyev, V.S. Contact Method of Measuring the Melting Point of Metals and Certain Metallic Alloys

213

The method is based on direct measurement of the thermoelectromotive forces in the contacting of a hot thermocompound with a cold one. The method makes it possible to determine the temperature of the fusion under the action of the electric current. The contact method is recommended for the determination of the initial fusion temperature of simple and complex alloy systems in the temperature range of the crystallization of solid solutions.

Card 10/32



BONDAR' I. A.

Category: USSR / Physical Chemistry
Thermodynamics. Thermochemistry. Equilibrium. Physico-
chemical analysis. Phase transitions.

B-8

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29943

Author : Toropov N. A., Galakhov F. Ya., Bondar' I. A.

Inst : Academy of Sciences USSR

Title : Diagram of State of the Ternary System $\text{CaO} - \text{BaO} - \text{SiO}_2$.

Orig Pub: Izv. AN SSSR, Otd. khim. n., 1956, No 6, 641-648

Abstract: A study of the liquidus diagram of the system CaO (I) - BaO (II) - SiO_2 (III). Synthesis of initial specimens and the furnaces utilized have been described previously (RZhKhim, 1955, 37847). As starting materials were used 99.90% SiO_2 , 98.80% BaCO_3 , 99.88% CaCO_3 . Phase equilibria were investigated by the methods of hardening, crystal growing, microscopically and by x-ray phase analysis. Liquidus of the system is represented by 12 fields of crystallization of different phases; composition and temperatures of invariant points are given. It was found that stratification region,

Card : 1/2

-58-

Category: USSR / Physical Chemistry
Thermodynamics. Thermochemistry. Equilibrium. Physico-
chemical analysis. Phase transitions.

B-8

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29943

of the I-III system, which encompasses concentrations from 72 to 99.5% III, as was shown before (Ol'shanskiy Ya. I., Dokl. AN SSSR, 1951, 76, No 1, 93), in the ternary system extends up to 11% II. Boundaries of stratification region have been determined as well as the temperatures of co-existence of crystalline phase III and two liquid layers. Coordinates of critical point of ternary system: 5% I, 11% II and 1690°.

Card : 2/2

-59-

USSR/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria,
Physical-Chemical Analysis, Phase Transitions.

B-8

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 7163.

Author : I.A. Boudar'.

Inst :

Title : Liquation Phenomenon in Ternary System $\text{CaO} - \text{BaO} - \text{SiO}_2$.

Orig Pub: Zh. neorgan. khimii, 1956, 1, No 7, 1539-1542.

Abstract: The system $\text{CaO} - \text{BaO} - \text{SiO}_2$ was studied in the range of SiO_2 contents from 60 to 100% by the method of hardening with following microscopy and by x-ray analysis. A demixing region narrowing with the temperature rise was found in the diagram portion adjoining the $\text{CaO} - \text{SiO}_2$ side near the SiO_2 angle. A spatial model of the liquation region, having the shape of a dome, was constructed. The demixing region comprises the compounds with 72 to 99.5% of SiO_2 in the binary system $\text{CaO} - \text{SiO}_2$ and

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USSR/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria,
Physical-Chemical Analysis, Phase Transitions.

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extends into the ternary system up to 11% of BaO . The refraction indices of individual glasses were determined.

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BONDAR, I.A., TOROPOV, N.A.

"About Crystallisation of Dicalcium and Tricalcium Silicate in the System:
CaO-Al₂O₃-SiO₂ in the Presence of Iron Oxides,"
lecture given at the Fourth Conference on Steelmaking, A.A. Baikov Institute of
Metallurgy, Moscow, July 1-6, 1957